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FIGURE 1

aattgtcagc acgggatctg agacttccaa aaaatgaagc cggcgacagg actttgggtc tgqgtqaqcc ttctcgtggc ggcggggacc gtccagccca gcgattctca gtcagtgtgt qcaqqaacqq aqaataaact gagctctctc tctgacctgg aacagcagta ccgagccttg cqcaaqtact atgaaaactq tqaggttgtc atgggcaacc tggagataac cagcattgag 181 cacaaccqqq acctctcctt cctqcggtct gttcgagaag tcacaggcta cgtgttagtg 241 301 gctcttaatc agtttcgtta cctgcctctg gagaatttac gcattattcg tgggacaaaa 361 .ctttatgagg atcgatatgc cttggcaata tttttaaact acagaaaaga tggaaacttt 421 ggacttcaag aacttggatt aaagaacttg acagaaatcc taaatggtgg agtctatgta gaccagaaca aatteetttg ttatgeagac accatteatt ggeaagatat tgtteggaac ccatqqcctt ccaacttqac tcttgtgtca acaaatggta gttcaggatg tggacgttgc cataagtcct gtactggccg ttgctgggga cccacagaaa atcattgcca gactttgaca aggacggtgt gtgcagaaca atgtgacggc agatgctacg gaccttacgt cagtgactgc tgccatcgag aatgtgctgg aggctgctca ggacctaagg acacagactg ctttgcctgc atgaatttca atgacagtgg agcatgtgtt actcagtgtc cccaaacctt tgtctacaat ccaaccacct ttcaactgga gcacaatttc aatgcaaagt acacatatgg agcattctgt qtcaaqaaat qtccacataa ctttgtggta gattccagtt cttgtgtgcg tgcctgccct 901 agttccaaga tggaagtaga agaaaatggg attaaaatgt gtaaaccttg cactgacatt 1021 tqcccaaaaq cttqtqatqq cattqgcaca ggatcattga tqtcagctca gactqtggat 1081 tccaqtaaca ttqacaaatt cataaactgt accaagatca atgggaattt gatctttcta 1141 gtcactggta ttcatgggga cccttacaat gcaattgaag ccatagaccc agagaaactg 1201 aacgtctttc ggacagtcag agagataaca ggtttcctga acatacagtc atggccacca 1261 aacatgactg acttcagtgt tttttctaac ctggtgacca ttggtggaag agtactctat 1321 agtggcctgt ccttgcttat cctcaagcaa cagggcatca cctctctaca gttccagtcc 1381 ctgaaggaaa tcagcgcagg aaacatctat attactgaca acagcaacct gtgttattat 1441 cataccatta actggacaac actcttcagc acaatcaacc agagaatagt aatccgggac 1501 aacagaaaag ctgaaaattg tactgctgaa ggaatggtgt gcaaccatct gtgttccagt 1561 gatggctgtt ggggacctgg gccagaccaa tgtctgtcgt gtcgccgctt cagtagagga 1621 aggatetgea tagagtettg taacetetat gatggtgaat ttegggagtt tgagaatgge 1681 tecatetgtg tggagtgtga eececagtgt gagaagatgg aagatggeet eetcacatge 1741 catggaccgg gtcctgacaa ctgtacaaag tgctctcatt ttaaagatgg cccaaactgt 1801 gtggaaaaat gtccagatgg cttacagggg gcaaacagtt tcattttcaa gtatgctgat 1861 ccagatcggg agtgccaccc atgccatcca aactgcaccc aagggtgtaa cggtcccact 1921 agtcatgact gcatttacta cccatggacg ggccattcca ctttaccaca acatgctaga 1981 actcccctga ttgcagctgg agtaattggt gggctcttca ttctggtcat tgtgggtctg 2041 acatttqctq tttatqttag aaggaagagc atcaaaaaga aaagagcctt gagaagattc 2101 ttggaaacag agttggtgga accattaact cccagtggca cagcacccaa tcaagctcaa 2161 cttcgtattt tgaaagaaac tgagctgaag agggtaaaag tccttggctc aggtgctttt 2221 ggaacggttt ataaaggtat ttgggtacct gaaggagaaa ctgtgaagat tcctgtggct 2281 attaagattc ttaatgagac aactggtccc aaggcaaatg tggagttcat ggatgaagct 2341 ctgatcatgg caagtatgga tcatccacac ctagtccggt tgctgggtgt gtgtctgagc 2401 ccaaccatcc agctggttac tcaacttatg ccccatggct gcctgttgga gtatgtccac 2461 gagcacaagg ataacattgg atcacaactg ctgcttaact ggtgtgtcca gatagctaag 2521 ggaatgatgt acctggaaga aagacgactc gttcatcggg atttggcagc ccgtaatgtc 2581 ttaqtqaaat ctccaaacca tgtgaaaatc acagattttg ggctagccag actcttggaa 2641 ggagatgaaa aagagtacaa tgctgatgga ggaaagatgc caattaaatg gatggctctg 2701 qaqtqtatac attacaqqaa attcacccat cagagtgacg tttggagcta tggagttact 2761 atatgggaac tgatgacctt, tggaggaaaa ccctatgatg gaattccaac gcgagaaatc 2821 cctgatttat tagagaaagg agaacgtttg cctcagcctc ccatctgcac tattgacgtt 2881 tacatggtca tggtcaaatg ttggatgatt gatgctgaca gtagacctaa atttaaggaa 2941 ctggctgctg agttttcaag gatggctcga gaccctcaaa gatacctagt tattcagggt 3001 gatgatcgta tgaagcttcc cagtccaaat gacagcaagt tctttcagaa tctcttggat 3061 gaagaggatt tggaagatat gatggatgct gaggagtact tggtccctca ggctttcaac 3121 atcccacctc ccatctatac ttccagagca agaattgact cgaataggag tgaaattgga 3181 cacagocoto otootgoota cacooccatg toaggaaaco agtttgtata cogagatgga 3241 ggttttgctg ctgaacaagg agtgtctgtg ccctacagag ccccaactag cacaattcca 3301 gaageteetg tggeacaggg tgetactget gagatttttg atgacteetg etgtaatgge 3361 accetacqea agecagtgge accecatgte caagaggaca gtagcaccca gaggtacagt 3421 gctgacccca ccgtgtttgc, cccagaacgg agcccacgag gagagctgga tgaggaaggt 3481 tacatgacto ctatgogaga caaacccaaa caagaataco tgaatccagt ggaggagaac MAY 2 0 2003

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3541 ccttttgttt ctcggagaaa aaatggagac cttcaagcat tggataatcc cgaatatcac 3601 aatgcateca atggtecace caaggeegag gatgagtatg tgaatgagee aetgtaeete 3661 aacacctttg ccaacacctt gggaaaagct gagtacctga agaacaacat actgtcaatg 3721 ccagagaagg ccaagaaagc gtttgacaac cctgactact ggaaccacag cctgccacct 3781 cqqaqcaccc ttcaqcaccc aqactacctg caggagtaca gcacaaaata tttttataaa 3841 cagaatgggc ggatccggcc tattgtggca gagaatcctg aatacctctc tgagttctcc 3901 ctgaaqccaq qcactqtqct qccgcctcca ccttacagac accggaatac tgtggtgtaa 3961 getcagttgt ggttttttag gtggagagac acacetgete caattteece accecetet 4021 ctttctctgg tggtcttcct tctaccccaa ggccagtagt tttgacactt cccagtggaa 4081 gatacagaga tgcaatgata gttatgtgct tacctaactt gaacattaga gggaaagact 4141 gaaagagaaa gataggagga accacaatgt ttcttcattt ctctgcatgg gttggtcagg 4201 agaatgaaac agctagagaa ggaccagaaa atgtaaggca atgctgccta ctatcaaact 4261 agctgtcact ttttttcttt ttctttttct ttctttgttt ctttcttcct cttcttttt 4321 ttttttttt taaagcagat ggttgaaaca cccatgctat ctgttcctat ctgcaggaac 4381 tgatgtgtgc atatttagca tccctggaaa tcataataaa gtttccatta gaacaaaaga 4441 ataacatttt ctataacata tgatagtgtc tgaaattgag aatccagttt ctttccccag 4501 cagtttctgt cctagcaagt aagaatggcc aactcaactt tcataattta aaaatctcca 4621 ctctgaccga ttcctttata tttgctcccc tatttttggc tttaatttct aattgcaaaq 4681 atqtttacat caaaqcttct tcacagaatt taagcaagaa atattttaat atagtgaaat 4741 ggccactact ttaagtatac aatctttaaa ataagaaagg gaggctaata tttttcatgc 4801 tatcaaatta tottoaccot catcotttac atttttcaac atttttttt ctccataaat 4861 gacactactt gataggccgt tggttgtctg aagagtagaa gggaaactaa gagacagttc 4921 tctqtqqttc aqqaaaacta ctqatacttt caggggtggc ccaatgaggg aatccattga 4981 actggaagaa acacactgga ttgggtatgt ctacctggca gatactcaga aatgtagttt 5041 gcacttaagc tgtaatttta tttgttcttt ttctgaactc cattttggat tttgaatcaa 5101 gcaatatgga agcaaccagc aaattaacta atttaagtac atttttaaaa aaagagctaa 5161 gataaagact gtggaaatgc caaaccaagc aaattaggaa ccttgcaacg gtatccaggg 5221 actatgatga gaggccagca cattatcttc atatgtcacc tttgctacgc aaggaaattt 5281 gttcagttcg tatacttcgt aagaaggaat gcgagtaagg attggcttga attccatgga 5341 atttctagta tgagactatt tatatgaagt agaaggtaac tctttgcaca taaattggta 5401 taataaaaag aaaaacacaa acattcaaag cttagggata ggtccttggg tcaaaagttg

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FIGURE 2

MKPATGLWVWVSLLVAAGTVQPSDSQSVCAGTENKLSSLSDLEQQYRALRKYYENCEVVMGN LEITSIEHNRDLSFLRSVREVTGYVLVALNQFRYLPLENLRIIRGTKLYEDRYALAIFLNYR KDGNFGLQELGLKNLTEILNGGVYVDQNKFLCYADTIHWQDIVRNPWPSNLTLVSTNGSSGC GRCHKSCTGRCWGPTENHCOTLTRTVCAEQCDGRCYGPYVSDCCHRECAGGCSGPKDTDCFA CMNFNDSGACVTQCPQTFVYNPTTFQLEHNFNAKYTYGAFCVKKCPHNFVVDSSSCVRACPS SKMEVEENGIKMCKPCTDICPKACDGIGTGSLMSAQTVDSSNIDKFINCTKINGNLIFLVTG IHGDPYNAIEAIDPEKLNVFRTVREITGFLNIQSWPPNMTDFSVFSNLVTIGGRVLYSGLSL LILKQQGITSLQFQSLKEISAGNIYITDNSNLCYYHTINWTTLFSTINQRIVIRDNRKAENC TAEGMVCNHLCSSDGCWGPGPDOCLSCRRFSRGRICIESCNLYDGEFREFENGSICVECDPQ CEKMEDGLLTCHGPGPDNCTKCSHFKDGPNCVEKCPDGLQGANSFIFKYADPDRECHPCHPN CTOGCNGPTSHDCIYYPWTGHSTLPQHARTPLIAAGVIGGLFILVIVGLTFAVYVRRKSIKK KRALRRFLETELVEPLTPSGTAPNQAQLRILKETELKRVKVLGSGAFGTVYKGIWVPEGETV KIPVAIKILNETTGPKANVEFMDEALIMASMDHPHLVRLLGVCLSPTIQLVTQLMPHGCLLE YVHEHKDNIGSQLLLNWCVQIAKGMMYLEERRLVHRDLAARNVLVKSPNHVKITDFGLARLL EGDEKEYNADGGKMPIKWMALECIHYRKFTHQSDVWSYGVTIWELMTFGGKPYDGIPTREIP DLLEKGERLPOPPICTIDVYMVMVKCWMIDADSRPKFKELAAEFSRMARDPQRYLVIQGDDR MKLPSPNDSKFFONLLDEEDLEDMMDAEEYLVPQAFNIPPPIYTSRARIDSNRSEIGHSPPP AYTPMSGNQFVYRDGGFAAEQGVSVPYRAPTSTIPEAPVAQGATAEIFDDSCCNGTLRKPVA PHVQEDSSTQRYSADPTVFAPERSPRGELDEEGYMTPMRDKPKQEYLNPVEENPFVSRRKNG DLQALDNPEYHNASNGPPKAEDEYVNEPLYLNTFANTLGKAEYLKNNILSMPEKAKKAFDNP DYWNHSLPPRSTLQHPDYLQEYSTKYFYKQNGRIRPIVAENPEYLSEFSLKPGTVLPPPPYR HRNTVV

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FIGURE 3

acggagaataaactgagctctctctctgacctggaacagcagtaccgagccttgcgcaagtactatga aaactqtqaqqttqtcatqqqcaacctqqaqataaccagcattqaqcacaaccqqqqacctctccttcc tgcggtctgttcgagaagtcacaggctacgtgttagtggctcttaatcagtttcgttacctgcctctq qaqaatttacqcattattcqtqqqacaaaactttatqaqqatcqatatqccttqqcaatatttttaaa ctacagaaaagatggaaactttggacttcaagaacttggattaaagaacttgacagaaatcctaaatg cggaacccatggccttccaacttgactcttgtgtcaacaaatggtagttcaggatgtggacgttqcca taaqtcctqtactqqccqttqctqqqqacccacagaaaatcattqccagactttgacaaggacggtqt $\tt gtgcagaacaatgtgacggcagatgctacggaccttacgtcagtgactgctgccatcgagaatgtgct$ ggaggctgctcaggacctaaggacacagactgctttgcctgcatgaatttcaatgacagtggagcatg tqttactcaqtqtccccaaacctttqtctacaatccaaccacctttcaactggagcacaatttcaatg caaaqtacacatatqqaqcattctqtqtcaagaaatgtccacataactttqtggtagattccagttct tqtqtqcqtqcctqcctaqttccaaqatqqaagtagaagaaaatgggattaaaatgtgtaaaccttg cactqacatttqcccaaaaqcttqtqatqqcattggcacaggatcattgatgtcagctcagactgtgg attccagtaacattgacaaattcataaactgtaccaagatcaatgggaatttgatctttctagtcact ggtattcatggggacccttacaatgcaattgaagccatagacccagagaaactgaacgtctttcggac tttctaacctqqtgaccattqgtqgaagagtactctatagtggcctgtccttgcttatcctcaagcaa $\verb|cagggcatcacctctatacagttccagtccctgaaggaaatcagcgcaggaaacatctatattactga|\\$ caacaqcaacctqtqttattatcataccattaactggacaacactcttcagcacaatcaaccagagaa tagtaatccgggacaacagaaaagctgaaaattgtactgctgaaggaatggtgtgcaaccatctgtgt qatctqcataqaqtcttqtaacctctatqatqqtqaatttcqqqaqtttqaqaatqqctccatctqtq tggagtgtgacccccagtgtgagaagatggaagatggcctcctcacatgccatggaccgggtcctqac aactqtacaaaqtqctctcattttaaaqatqqcccaaactqtqtqqaaaaatqtccaqatqqcttaca gggggcaaacagtttcattttcaagtatgctgatccagatcgggagtgccacccatgccatccaaact gcacccaagggtgtaacggtcccactagtcatgactgcatttactacccatggacgggcacgcgtgac aaaactcacacatgcccaccgtgcccagcacctgaactcctggggggaccgtcagtcttcctcttccc cccaaaacccaaggacacctcatgatctcccggacccctgaggtcacatgcgtggtggtggacgtga qccacqaaqaccctqaqqtcaaqttcaactggtacgtggacggcgtggaggtgcataatgccaagaca aagccgcgggaggagcagtacaacagcacgtaccgggtggtcagcgtcctcaccgtcctgcaccagga ctgqctgaatggcaaggagtacaagtgcaaggtctccaacaaagccctcccagcccccatcgagaaaa ccatctccaaagccaaaggcagccccgagaaccacaggtgtacaccctgcccccatcccgggaagag atqaccaaqaaccaqqtcaqcctqacctqcctqqtcaaaqqcttctatcccagcgacatcgccgtgga gtgggagagcaatgggcagccggagaacaactggcccaccccttggcttacaagaccacgcctcccg tqctqqactccqacqqctccttcttcctctacaqcaaqctcaccqtgqacaagaqcaggtggcagcag gggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaagagcctctc cctgtctccgggtaaat



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FIGURE 4

QSVCAGTENKLSSLSDLEQQYRALRKYYENCEVVMGNLEITSIEHNRDLSFLRSVREVTGYV LVALNQFRYLPLENLRIIRGTKLYEDRYALAIFLNYRKDGNFGLQELGLKNLTEILNGGVYV DQNKFLCYADTIHWQDIVRNPWPSNLTLVSTNGSSGCGRCHKSCTGRCWGPTENHCQTLTRT VCAEQCDGRCYGPYVSDCCHRECAGGCSGPKDTDCFACMNFNDSGACVTQCPQTFVYNPTTF QLEHNFNAKYTYGAFCVKKCPHNFVVDSSSCVRACPSSKMEVEENGIKMCKPCTDICPKACD GIGTGSLMSAQTVDSSNIDKFINCTKINGNLIFLVTGIHGDPYNAIEAIDPEKLNVFRTVRE ITGFLNIQSWPPNMTDFSVFSNLVTIGGRVLYSGLSLLILKQQGITSLQFQSLKEISAGNIY ITDNSNLCYYHTINWTTLFSTINQRIVIRDNRKAENCTAEGMVCNHLCSSDGCWGPGPDQCL SCRRFSRGRICIESCNLYDGEFREFENGSICVECDPQCEKMEDGLLTCHGPGPDNCTKCSHF KDGPNCVEKCPDGLQGANSFIFKYADPDRECHPCHPNCTQGCNGPTSHDCIYYPWTG

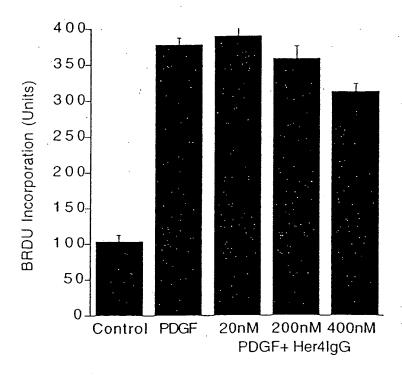


FIG. 5



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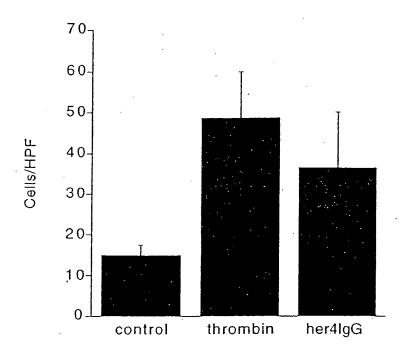


FIG. 6

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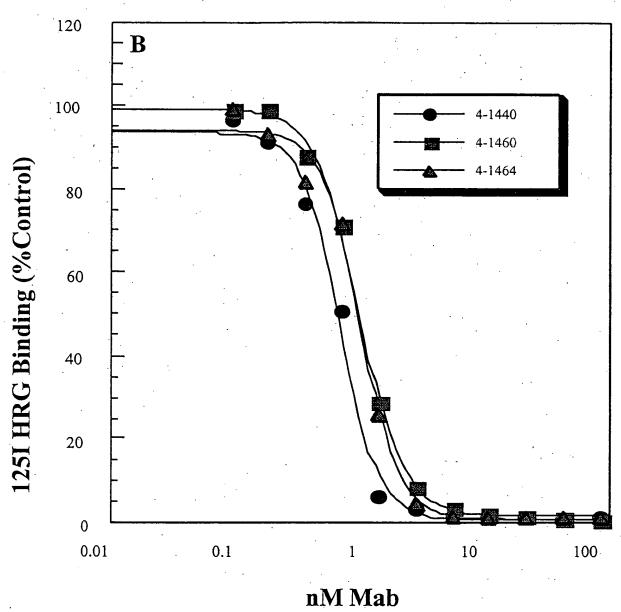


Figure 7



FIGURE 1

aattgtcagc acgggatctg agacttccaa aaa<u>atg</u>aagc cggcgacagg actttgggtc tgggtgagcc ttctcgtggc ggcggggacc gtccagccca gcgattctca gtcagtgtgt 61 gcaggaacgg agaataaact gagctctctc tctgacctgg aacagcagta ccgagccttg 121 181 cgcaaqtact atgaaaactg tgaggttgtc atgggcaacc tggagataac cagcattgag cacaaccggg accteteett cetgeggtet gttegagaag teacaggeta egtgttagtg 241 qctcttaatc agtttcgtta cctgcctctg gagaatttac gcattattcg tgggacaaaa 301 ctttatgagg atcgatatgc cttggcaata tttttaaact acagaaaaga tggaaacttt 361 qqacttcaaq aacttgqatt aaagaacttg acagaaatcc taaatggtgg agtctatgta 421 gaccagaaca aatteetttg ttatgeagae accatteatt ggeaagatat tgtteggaae 481 ccatqqcctt ccaacttqac tcttqtqtca acaaatggta gttcaggatg tggacgttgc 541 cataagteet gtactggeeg ttgetgggga cecacagaaa atcattgeea gaetttgaea 601 aggacggtgt gtgcagaaca atgtgacggc agatgctacg gaccttacgt cagtgactgc 661 tgccatcgag aatgtgctgg aggctgctca ggacctaagg acacagactg ctttgcctgc 721 atgaatttca atgacagtgg agcatgtgtt actcagtgtc cccaaacctt tgtctacaat 781 ccaaccacct ttcaactgga gcacaatttc aatgcaaagt acacatatgg agcattctgt 841 gtcaagaaat gtccacataa ctttgtggta gattccagtt cttgtgtgcg tgcctgccct 901 agttccaaga tggaagtaga agaaaatggg attaaaatgt gtaaaccttg cactgacatt 961 1021 tgcccaaaag cttgtgatgg cattggcaca ggatcattga tgtcagctca gactgtggat 1081 tocaqtaaca ttgacaaatt cataaactgt accaagatca atgggaattt gatctttcta 1141 gtcactggta ttcatgggga cccttacaat gcaattgaag ccatagaccc agagaaactg. 1201 aacgtctttc ggacagtcag agagataaca ggtttcctga acatacagtc atggccacca 1261 aacatgactg acttcagtgt tttttctaac ctggtgacca ttggtggaag agtactctat 1321 agtggcctgt ccttgcttat cctcaagcaa cagggcatca cctctctaca gttccagtcc 1381 ctgaaggaaa tcagcgcagg aaacatctat attactgaca acagcaacct gtgttattat 1441 cataccatta actggacaac actettcage acaatcaace agagaatagt aateegggae 1501 aacaqaaaaq ctgaaaattg tactgctgaa ggaatggtgt gcaaccatct gtgttccagt 1561 gatggctgtt ggggacctgg gccagaccaa tgtctgtcgt gtcgccgctt cagtagagga 1621 aggatctgca tagagtcttg taacctctat@gatggtgaat ttcgggagtt tgagaatggc 1681 tccatctgtg tggagtgtga cccccagtgt gagaagatgg aagatggcct cctcacatgc 1741 catggaccgg gtcctgacaa ctgtacaaag tgctctcatt ttaaagatgg cccaaactgt 1801 gtggaaaaat gtccagatgg cttacagggg gcaaacagtt tcattttcaa gtatgctgat 1861 ccagatcggg agtgccaccc atgccatcca aactgcaccc aagggtgtaa cggtcccact 1921 agtcatgact gcatttacta cccatggacg ggccattcca ctttaccaca acatgctaga 1981 actcccctga ttgcagctgg agtaattggt gggctcttca ttctggtcat tgtgggtctg 2041 acatttgctg tttatgttag aaggaagage atcaaaaaga aaagageett gagaagatte 2101 ttggaaacag agttggtgga accattaact cccagtggca cagcacccaa tcaagctcaa 2161 cttcgtattt tgaaagaaac tgagctgaag agggtaaaag tccttggctc aggtgctttt 2221 ggaacggttt ataaaggtat ttgggtacct gaaggagaaa ctgtgaagat tcctgtggct 2281 attaagattc ttaatgagac aactggtccc aaggcaaatg tggagttcat ggatgaagct 2341 ctgatcatgg caagtatgga tcatccacac ctagtccggt tgctgggtgt gtgtctgagc 2401 ccaaccatcc agetggttac tcaacttatg ccccatggct gcctgttgga gtatgtccac 2461 gagcacaagg ataacattgg atcacaactg ctgcttaact ggtgtgtcca gatagctaag 2521 ggaatgatgt acctggaaga aagacgactc gttcatcggg atttggcagc ccgtaatgtc 2581 ttagtgaaat ctccaaacca tgtgaaaatc acagattttg ggctagccag actcttggaa 2641 ggagatgaaa aagagtacaa tgctgatgga ggaaagatgc caattaaatg gatggctctg 2701 gagtgtatac attacaggaa attcacccat cagagtgacg tttggagcta tggagttact 2761 atatgggaac tgatgacctt tggaggaaaa ccctatgatg gaattccaac gcgagaaatc 2821 cctgatttat tagagaaagg agaacgtttg cctcagcctc ccatctgcac tattgacgtt 2881 tacatqqtca tqqtcaaatg ttggatqatt gatqctqaca gtagacctaa atttaaggaa 2941 ctggctgctg agttttcaag gatggctcga gaccctcaaa gatacctagt tattcagggt 3001 gatgatcqta tgaagcttcc cagtccaaat gacagcaagt tctttcagaa tctcttggat 3061 gaagaggatt tggaagatat gatggatgct gaggagtact tggtccctca ggctttcaac 3121 atoccaccto coatotatao ttocagagoa agaattgact ogaataggag tgaaattgga 3181 cacageeete eteetgeeta caceeecatg teaggaaace agtttgtata eegagatgga 3241 ggttttgctg ctgaacaagg agtgtctgtg ccctacagag ccccaactag cacaattcca 3301 gaageteetg tggeaeaggg tgetaetget gagatttttg atgaeteetg etgtaatgge 3361 accetacgea agecagtgge accecatgte caagaggaca gtageaceca gaggtacagt 3421 gctgacccca ccgtgtttgc cccagaacgg agcccacgag gagagctgga tgaggaaggt 3481 tacatgacto ctatgogaga caaacccaaa caagaataco tgaatocagt ggaggagaac

40 \$0 55

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3601 aatgcatcca atggtccacc caaggccgag gatgagtatg tgaatgagcc actgtacctc 3661 aacacctttg ccaacacctt gggaaaagct gagtacctga agaacaacat actgtcaatg 3721 ccagagaagg ccaagaaagc gtttgacaac cctgactact ggaaccacag cctgccacct 3781 cggagcaccc ttcagcaccc agactacctg caggagtaca gcacaaaata tttttataaa 3841 cagaatgggc ggatccggcc tattgtggca gagaatcctg aatacctctc tgagttctcc 3901 ctgaagccag gcactgtgct gccgcctcca ccttacagac accggaatac tgtggtgtaa 3961 gctcagttgt ggttttttag gtggagagac acacctgctc caatttcccc acccccctct 4021 ctttctctgg tggtcttcct tctaccccaa ggccagtagt tttgacactt cccagtggaa 4081 gatacagaga tgcaatgata gttatgtgct tacctaactt gaacattaga gggaaagact 4141 qaaaqaqaaa qataqqaqqa accacaatgt ttcttcattt ctctgcatgg gttggtcagg

5461 taaataaatg tgaaacatct tctc

4201 agaatgaaac agctagagaa ggaccagaaa atgtaaggca atgctgccta ctatcaaact 4261 agetgteact ttttttettt ttettttet ttetttgttt etttetteet ettettttt 4321 ttttttttt taaagcagat ggttgaaaca cccatgctat ctgttcctat ctgcaggaac 4381 tgatgtgtgc atatttagca tccctggaaa tcataataaa gtttccatta gaacaaaaga 4441 ataacatttt ctataacata tgatagtgtc tgaaattgag aatccagttt ctttccccag 4501 cagtttctgt cctagcaagt aagaatggcc aactcaactt tcataattta aaaatctcca 4621 ctctgaccga ttcctttata tttgctcccc tatttttggc tttaatttct aattgcaaag 4681 atgtttacat caaagcttct tcacagaatt taagcaagaa atattttaat atagtgaaat 4741 ggccactact ttaagtatac aatctttaaa ataagaaagg gaggctaata tttttcatgc 4801 tatcaaatta tottoaccot catcotttac atttttcaac atttttttt ctccataaat 4861 gacactactt gataggccgt tggttgtctg aagagtagaa gggaaactaa gagacagttc 4921 tctgtggttc aggaaaacta ctgatacttt caggggtggc ccaatgaggg aatccattga 4981 actggaagaa acacactgga ttgggtatgt ctacctggca gatactcaga aatgtagttt 5041 gcacttaagc tgtaatttta tttgttcttt ttctgaactc cattttggat tttgaatcaa 5101 gcaatatgga agcaaccagc aaattaacta atttaagtac atttttaaaa aaagagctaa 5161 gataaagact gtggaaatgc caaaccaagc aaattaggaa ccttgcaacg gtatccaggg 5221 actatgatga gaggccagca cattatette atatgteace tttgetacge aaggaaattt 5281 gttcagttcg tatacttcgt aagaaggaat gcgagtaagg attggcttga attccatgga

5341 atttctagta tgagactatt tatatgaagt agaaggtaac tctttgcaca taaattggta 5401 taataaaaag aaaaacacaa acattcaaag cttagggata ggtccttggg tcaaaagttg



FIGURE 2

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MKPATGLWVWVSLLVAAGTVQPSDSQSVCAGTENKLSSLSDLEQQYRALRKYYENCEVVMGN LEITSIEHNRDLSFLRSVREVTGYVLVALNOFRYLPLENLRIIRGTKLYEDRYALAIFLNYR KDGNFGLOELGLKNLTEILNGGVYVDONKFLCYADTIHWQDIVRNPWPSNLTLVSTNGSSGC GRCHKSCTGRCWGPTENHCQTLTRTVCAEQCDGRCYGPYVSDCCHRECAGGCSGPKDTDCFA CMNFNDSGACVTOCPOTFVYNPTTFQLEHNFNAKYTYGAFCVKKCPHNFVVDSSSCVRACPS SKMEVEENGIKMCKPCTDICPKACDGIGTGSLMSAQTVDSSNIDKFINCTKINGNLIFLVTG IHGDPYNAIEAIDPEKLNVFRTVREITGFLNIQSWPPNMTDFSVFSNLVTIGGRVLYSGLSL LILKQQGITSLQFQSLKEISAGNIYITDNSNLCYYHTINWTTLFSTINQRIVIRDNRKAENC TAEGMVCNHLCSSDGCWGPGPDQCLSCRRFSRGRICIESCNLYDGEFREFENGSICVECDPQ CEKMEDGLLTCHGPGPDNCTKCSHFKDGPNCVEKCPDGLQGANSFIFKYADPDRECHPCHPN CTQGCNGPTSHDCIYYPWTGHSTLPQHARTPLIAAGVIGGLFILVIVGLTFAVYVRRKSIKK KRALRRFLETELVEPLTPSGTAPNOAOLRILKETELKRVKVLGSGAFGTVYKGIWVPEGETV KIPVAIKILNETTGPKANVEFMDEALIMASMDHPHLVRLLGVCLSPTIQLVTQLMPHGCLLE YVHEHKDNIGSOLLLNWCVQIAKGMMYLEERRLVHRDLAARNVLVKSPNHVKITDFGLARLL EGDEKEYNADGGKMPIKWMALECIHYRKFTHQSDVWSYGVTIWELMTFGGKPYDGIPTREIP DLLEKGERLPOPPICTIDVYMVMVKCWMIDADSRPKFKELAAEFSRMARDPQRYLVIQGDDR MKLPSPNDSKFFQNLLDEEDLEDMMDAEEYLVPQAFNIPPPIYTSRARIDSNRSEIGHSPPP AYTPMSGNQFVYRDGGFAAEQGVSVPYRAPTSTIPEAPVAQGATAEIFDDSCCNGTLRKPVA PHVQEDSSTQRYSADPTVFAPERSPRGELDEEGYMTPMRDKPKQEYLNPVEENPFVSRRKNG DLOALDNPEYHNASNGPPKAEDEYVNEPLYLNTFANTLGKAEYLKNNILSMPEKAKKAFDNP DYWNHSLPPRSTLQHPDYLQEYSTKYFYKQNGRIRPIVAENPEYLSEFSLKPGTVLPPPPYR HRNTVV



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FIGURE 3

acggagaataaactgagctctctctctgacctggaacagcagtaccgagccttgcgcaagtactatga aaactgtgaggttgtcatgggcaacctggagataaccagcattgagcacaaccgggacctctccttcc tgcggtctgttcgagaagtcacaggctacgtgttagtggctcttaatcagtttcgttacctgcctctggagaatttacgcattattcgtgggacaaaactttatgaggatcgatatgccttggcaatatttttaaa ctacagaaaagatggaaactttggacttcaagaacttggattaaagaacttgacagaaatcctaaatg cggaacccatggccttccaacttgactcttgtgtcaacaaatggtagttcaggatgtggacgttgcca taagtcctgtactggccgttgctggggacccacagaaaatcattgccagactttgacaaggacggtgtgtgcagaacaatgtgacggcagatgctacggaccttacgtcagtgactgctgccatcgagaatgtgct qqaqqctqctcaggacctaaggacacagactgctttgcctgcatgaatttcaatgacagtggagcatg tgttactcagtgtccccaaacctttgtctacaatccaaccacctttcaactggagcacaatttcaatg ${\tt caaagtacacatatggagcattctgtgtcaagaaatgtccacataactttgtggtagattccagttct}$ tgtgtgcgtgcctgccctagttccaagatggaagtagaagaaaatgggattaaaatgtgtaaaccttgcactgacatttgcccaaaagcttgtgatggcattggcacaggatcattgatgtcagctcagactgtgg $\verb|attccagtaacattgacaaattcataaactgtaccaagatcaatgggaatttgatctttctagtcact|\\$ ggtattcatggggacccttacaatgcaattgaagccatagacccagagaaactgaacgtctttcggac agt cag agaga taa cag gtttcct gaa cata cag t cat gg ccac caa acat gac t gac t t cag t gttt $\verb|tttctaacctggtgaccattggtggaagagtactctatagtggcctgtccttgcttatcctcaagcaa|$ $\verb|cagggcatcacctctacagttccagtccctgaaggaaatcagcgcaggaaacatctatattactga|\\$ caacagcaacctgtgttattatcataccattaactggacaacactcttcagcacaatcaaccagagaa tagtaatccgggacaacagaaaagctgaaaattgtactgctgaaggaatggtgtgcaaccatctgtgt $\tt gatctgcatagagtcttgtaacctctatgatggtgaatttcgggagtttgagaatggctccatctgtg$ tqqaqtqtqaccccaqtqtqaqaaqatqqaaqatggcctcctcacatgccatggaccgggtcctgac aactqtacaaaqtqctctcattttaaagatggcccaaactgtgtggaaaaatgtccagatggcttaca $\tt gggggcaaacagtttcattttcaagtatgctgatccagatcgggagtgccacccatgccatccaaact$ gcacccaagggtgtaacggtcccactagtcatgactgcatttactacccatggacgggcacgcgtgac aaaactcacacatgcccaccgtgcccagcacctgaactcctggggggaccgtcagtcttcctcttccc cccaaaacccaaggacaccctcatgatctcccggacccctgaggtcacatgcgtggtggtggacgtga $\tt gccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagaca$ a agccgcgggaggagcagtacaacagcacgtaccgggtggtcagcgtcctcaccgtcctgcaccaggactggctgaatggcaaggagtacaagtgcaaggtctccaacaaagccctcccagcccccatcgagaaaa ccatctceaaagccaaagggcagccccgagaaccacaggtgtacaccctgcccccatcccgggaagag atgaccaagaaccaggtcagcctgacctgcctggtcaaaggcttctatcccagcgacatcgccgtgga gtgggagagcaatgggcagccggagaacaactggcccaccccttggcttacaagaccacgcctcccg tgctggactccqacqqctccttcttcctctacagcaagctcaccgtggacaagagcaggtggcagcag gggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaagagcctctc cctgtctccgggtaaat



FIGURE 4

QSVCAGTENKLSSLSDLEQQYRALRKYYENCEVVMGNLEITSIEHNRDLSFLRSVREVTGYV LVALNQFRYLPLENLRIIRGTKLYEDRYALAIFLNYRKDGNFGLQELGLKNLTEILNGGVYV DQNKFLCYADTIHWQDIVRNPWPSNLTLVSTNGSSGCGRCHKSCTGRCWGPTENHCQTLTRT VCAEQCDGRCYGPYVSDCCHRECAGGCSGPKDTDCFACMNFNDSGACVTQCPQTFVYNPTTF QLEHNFNAKYTYGAFCVKKCPHNFVVDSSSCVRACPSSKMEVEENGIKMCKPCTDICPKACD GIGTGSLMSAQTVDSSNIDKFINCTKINGNLIFLVTGIHGDPYNAIEAIDPEKLNVFRTVRE ITGFLNIQSWPPNMTDFSVFSNLVTIGGRVLYSGLSLLILKQQGITSLQFQSLKEISAGNIY ITDNSNLCYYHTINWTTLFSTINQRIVIRDNRKAENCTAEGMVCNHLCSSDGCWGPGPDQCL SCRRFSRGRICIESCNLYDGEFREFENGSICVECDPQCEKMEDGLLTCHGPGPDNCTKCSHF KDGPNCVEKCPDGLQGANSFIFKYADPDRECHPCHPNCTQGCNGPTSHDCIYYPWTG

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